From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: steve.cornelius@tempe.vlsi.com

Subject: .206 jack source

Message-ID: <9511021934.AA15541@shark.tempe.vlsi.com>

Hank van Cleef wrote:

> This sounds like the standard aviation microphone jack. They are

> three-wire, a little smaller than the usual quarter inch. Check with

> your local avionics shop.

Hmm, happen to have a aero parts catalog here at my desk, in fact. Here it is...

Mike, 3-circuit, catalog #C-316-001, price \$4.99 in this catalog (exp. 8/11)

Wag-Aero, Lyons, WI, 1(800)558-6868 or (414)763-9586

Hope that helps,

73, steve cornelius, aa7xv

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995
From: "Terry O'Laughlin, RM:7135, #:6-6667" <OLAUGHLIN@vilas.uwex.edu>
Subject: 1937 Wholesale Radio Service Catalog
Message-ID: <MAILQUEUE-101.951103205415.320@vilas.uwex.edu>

I have the 1937 Wholesale Radio Service Co. Catalog. It is a fascinating peek into the past. It is profusely illustrated. Evidently this was a major outlet for early Lafayette Radio equipment. The first fifteen pages are devoted to Lafayette ham receivers and transmitters. Then comes RCA, the AR-60, ACT-200, ACT-40 and ACR-136, Hammurlund Super-Pro, All-Star 'All-Wave" receiver kits, Tobe, Browning 35, McMurdo Silver, Jones-Silver, Peak Products, Sargeant 10, National One-Ten, HRO, FB-7A, SW-3.

The remaining 40 pages is components, all beautifully illustrated: National, Hammurlund, UTC, Thordarson, Cradwell, Birnbach, Lynch, Trutest, Weston, Triplett, headphones from Brush, Frost, Brandes, Trimm and Acme. It makes a nice reference for old parts.

If anyone would like a photocopy of this 66 page catalog, I can do it for \$5.00, priority mail shipping included.

73 Terry O' WB9GVB

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: Steve Ellington <n4lq@iglou.com>

Subject: 1948 Goof?

Message-ID: <Pine.SOL.3.91.951103195928.871A-100000@iglou>

RE: QST Oct. 1948 pg. 48

Article: The "Transistor"-an Amplifying Crystal

Last paragraph:

"It doesn't appear the there will be much use made of Transistors in amateur work, unless it is in portable and/or compact audio amplifiers. The noise figure is said to be poor, compared to that obtainable with vacuum tubes, and this FACT may limit the usefulness in some amateur applications."

Autor; Byron Goodman, W1DX Asst. Tech. Ed.

Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: mjsilva@ix.netcom.com (michael silva)

Subject: Re: 1948 Goof?

Message-ID: <199511040153.RAA06674@ix13.ix.netcom.com>

>RE: QST Oct. 1948 pg. 48

>Article: The "Transistor"-an Amplifying Crystal

>Last paragraph:

>

>"It doesn't appear the there will be much use made of Transistors in >amateur work, unless it is in portable and/or compact audio amplifiers. >The noise figure is said to be poor, compared to that obtainable with >vacuum tubes, and this FACT may linit the usefulness in some amateur >applications."

With the advantage of hindsight we now know that the real disadvantage of these amplifying crystals is that they just don't look or smell as nice...

BTW, many of the early transistor transmitter circuits I've seen took the output from the \*base\* circuit. What were they thinking? (Rhetorical question -- I don't want to be accused of starting a transistor thread!)

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: lhalliday@creo.bc.ca Subject: Re: 1948 Goof?

Message-ID: <9510038154.AA815450723@mail.creo.bc.ca>

Steve N4LQ passes on a 1948 quote about transistors from QST:

> ...this FACT may limit the usefulness in some amateur applications."

Remember where transistors were at the time; this would be like denying the possibility of 6L6s, 3-500Zs and travelling wave tubes based on the state of the tube art in 1910. The early transistors didn't work very well at all. But after adding gigabucks of R&D, the result was modern day LSI, silicon and GaAs technology.

That's the benefit of hindsight - which tends to be 20/20. :-)

Laura Halliday VE7LDH "C'est une femme mutine, assez elegante, grave et legere, ayant lhalliday@creo.bc.ca le sens du confort et du plaisir ve7ldh@amsat.org en tout." - C. Deneuve

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: Bill VanAlstyne <bill@cruz.com>

Subject: Re: 1948 Goof?

Message-ID: <199511040212.AA14517@cruz.com>

At 07:28 PM 11/3/95 -0600, Steve Ellington wrote:

>RE: QST Oct. 1948 pg. 48

>Article: The "Transistor"-an Amplifying Crystal

>Last paragraph:

>"It doesn't appear the there will be much use made of Transistors in >amateur work, unless it is in portable and/or compact audio amplifiers. >The noise figure is said to be poor, compared to that obtainable with >vacuum tubes, and this FACT may limit the usefulness in some amateur

>applications."

>Autor; Byron Goodman, W1DX Asst. Tech. Ed.

I think -- I \*hope\* -- that we all may have learned something about technology since I was in diapers and Byron Goodman penned those lines. It

\*evolves\*.

Thing is, it is evolving a lot faster today than it was 50 years ago, so it's easier to see this now. Even so, it's hard to justify short-sightedness like this, even in 1948. Look at how much the vacuum tube had evolved from its inception to its 1948 state of the art; look at how knowledge of radio propagation had evolved in those 50 years after Marconi first put waves of unknown length into a completely uncomprehended "ether".

Of course, I haven't read the whole piece, just this excerpt taken out of context. But I doubt there are too many commentators nowadays who, when presented with news of a technological breakthrough, would grouse about its poor comparative performance and opine as to how it probably won't amount to much. I think we've learned our lessons, perhaps especially in the past decade of computer technology evolution.

I remember putting the first Seagate hard disk drives into cabinets with power supplies back in 1982, to be connected to Apple II's. There were 5 MB drives and (for the real Power Users) 10 MB drives. They cost a fortune. I heard more than one person say, "Who on earth is ever going to buy a 10 MB drive? That's more storage than anyone will ever be able to use!!" Now, thirteen years and two orders of magnitude in drive capacity later, with 1 GB drives the "standard" of the moment, do you hear many people saying, "Who's ever going to want a 10 GB drive?" No. You hear them saying, "How many cents per meg? When can I get one?" Maybe our awareness of this process has finally sunk in.:)

Bill N6FN bill@cruz.com

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995
From: Henry van Cleef <vancleef@bga.com>
Subject: Re: 1948 Goof?
Message-ID: <199511040433.WAA20460@zoom.bga.com>

As Steve Ellington said
>
> RE: QST Oct. 1948 pg. 48
> Article: The "Transistor"-an Amplifying Crystal
> Last paragraph:
> "It doesn't appear the there will be much use made of Transistors in
> amateur work, unless it is in portable and/or compact audio amplifiers.
> The noise figure is said to be poor, compared to that obtainable with
> vacuum tubes, and this FACT may linit the usefulness in some amateur
> applications."

>

Well, the only "goof" I can see here is that they didn't qualify it by saying "in the next ten years" or something like that. The early point contact transistors were noisy, fragile, and had extremely limited frequency response.

Transistors capable of operating as RF voltage amplifiers in the HF region didn't really begin to show up until around 1958-60, and power units suitable for transmitters and serious audio output didn't become common until the mid-late 1960's.

Today, the lowly 2N2222 is the jack-of-all-trades signal transistor. I've forgotten just when it was introduced, but it was something like fifteen or twenty years after that article was written.

The comparable time span for vacuum tube development took the technology from the Fleming valve to the V99 and '01A. Even the ubiquitous 80 rectifier and 24 tetrode were later developments.

- -

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: "Barry L. Ornitz" <u856010@eastman.com>

Subject: 6BL6 - Unusual Tube

Message-ID: <Pine.ULT.3.91.951103194521.29936A-100000@dua150.kpt.emn.com>

I do not have the reference handy but from the description I am fairly sure I am correct. This tube is an external cavity klystron. It was used in some early sweep generators where the 6BL6 was tuned electronically over a few hundred megahertz in the low microwave region. Its output was mixed with the output of another microwave oscillator. The difference frequency became the sweep generator output. Because the original voltage controlled oscillator operated in the microwave region, its percentage change in frequency was small. The sweep generator output, however, covered a much broader range than conventional electrically tuned oscillators.

At one time the tube was rather valuable. I sold two to Barry Electronics (on Broadway in NY) back in 1968 for \$100. I had bought them at a hamfest for two bits each because they looked interesting. Barry sold them for \$250 each so the tube markup was substantial even then.

I doubt if many of the old sweep generators are around today that still use this tube. Perhaps someone more familiar with HP could answer this question. If the plate cap is missing, I would worry about the vacuum. There is no good way to test this tube except in the proper cavity oscillator. While externally it looks similar to many lighthouse tubes, internally it is quite different.

73, Barry WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: w7ni@teleport.com (Stan Griffiths)

Subject: 6BL6 Tube For Sale

Message-ID: <199511030653.WAA09043@desiree.teleport.com>

It sure is a strange looking tube. About the size of a nine pin miniture. Has a 4 pin base with bigger than miniture pins. It also has two gold bands around its middle and what looks like used to be a plate cap on top. There is no plate cap there but there is a wire protruding from the glass envelope and what looks like the remains of some of the "glue" that held the cap in place. The vacuum seems intact. Sylvania made it and it says "JAN" on the envelope.

Is this of value to anybody? My wife says it would look great in a flower arrangement. I will listen for offers until November 10. In case there is any doubt, this IS a fishing expedition. I have no idea what I'm using for bait so I have no idea what I will catch, if anything. Add \$2 for shipping.

Stan W7NI@teleport.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Dave Creek <dcreek@pixi.com>
Subject: Re: 6BL6 Tube For Sale

Message-ID: <Pine.PCW.3.91.951103122517.8999B-100000@gorgax04.pixi.com>

On Fri, 3 Nov 1995, Stan Griffiths wrote:

- > It sure is a strange looking tube. About the size of a nine pin miniture.
- > Has a 4 pin base with bigger than miniture pins. It also has two gold bands
- > around its middle and what looks like used to be a plate cap on top. There
- > is no plate cap there but there is a wire protruding from the glass envelope
- > and what looks like the remains of some of the "glue" that held the cap in
- > place. The vacuum seems intact. Sylvania made it and it says "JAN" on the
- > envelope.

Digging back 30+ years in memory, this sounds like a reflex klystron tube. The two gold bands are the contact rings for the external cavity. The plate cap is the connection for the repeller plate. I think this was an "S" band tube (2700 to 2900 mHz). It was tuned by varying the size of the cavity and the negative voltage on the repeller plate. This tube is used as an oscillator in radar receivers in conjunction with a diode mixer in another cavity. The output of the klystron is coupled out of the cavity.

73 es Aloha,

Dave Creek, NH6BA Ewa Beach, HI dcreek@pixi.com

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: jfurman@stratacom.com (Jeff Furman)

Subject: 6BL6 tube.

Message-ID: <9511040023.AA14797@Strata.COM>

This tube is an external cavity klystron. I know it's used in my old HP signal generator that runs 1.9 to 4 GHz. the two grids are connected to the rings, and the "plate" connection is the repeller, normally negative wrt the cathode (no repeller current). Post WW2 QST's and ARRL Handbooks had some microwave information and construction projects using surplus 10GHz 2K25/723 internal cavity klystrons.

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: "Barry L. Ornitz" <u856010@eastman.com>

Subject: Accelerated Life Testing

73, Jeff KD6MNP Jfurman@strata.com

Message-ID: <Pine.ULT.3.91.951103202146.29936B-100000@dua150.kpt.emn.com>

As Hank and others have pointed out, no form of accelerated testing will perfectly predict component life. However, nature has given us some good "rules of thumb" for helping things along. Probably the best is the Arrhenius relationship between temperature and reaction rates. First proposed in 1889, its simple form is still adequate for most uses. The relationship states that the natural logarithm of the reaction rate is proportional to the inverse of the absolute temperature (deg K = deg C + 273).

{At this point, most of you are asking why did I start reading this, but please read on.}

This same relationship tends to be very universal, however. The leakage

current of a semiconductor follows the same relationship. The anode current of a vacuum diode also follows the same relationship (until space charge limitations interfere). And most importantly to this discussion, the useful life of many components follows it too.

What this says is that if you increase the temperature a little, the reaction rate will double. Increase it a little more and it will double again. Increase the temperature a lot and things grow very, very fast.

To make things even more serendipitious, for lots of things the amount of temperature needed to double the rate is around 10 degrees C (18 F). In fact, this is the "rule of thumb" I was talking about.

For a very good number of cases, increasing the temperature of a device by ten degrees will cause it to fail (or age) twice as fast. So if you want to run an accelerated life test, you might consider running it at an elevated temperature. Since my favorite room temperature is 20 C, I can put the component in an oven at 80 C and keep testing the item periodically until it fails. The Arrhenious relationship says that the life of the same part at 20 C will be 64 times longer than the life of the part in the oven. [2\*\*((80-20)/10) = 64]

So for common accelerated life testing, the component is subjected to elevated temperatures. [There is obviously a limit on how far you can go. If you heat the capacitor to the point where the dielectric melts, it is obvious that the relationship no longer holds.] This is also why excessive temperature in your radio equipment is so bad for it. Keep things cool.

Enough of this...

But wait! This exponential relationship is good for all sorts of things. This is why the decibel (dB) is so useful. All the really good stuff is logarithmic. If you really want to see how big your raise was this year, express it in dB. Remember that 1 dB is about the smallest change that humans can normally detect. Decibels are also a good way to express the increase in National Debt, or the tax break Congress is proposing.

If it ain't more than a few dB, you won't feel the difference! ;-)

You can tell you are a high-tech redneck if the bumper sticker on your truck reads "My other computer is a laptop."

73, Barry WA4VZQ ornitz@eastman.com

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: RADIONS@aol.com Subject: announcement Message-ID: <951102174509\_11026257@emout05.mail.aol.com>

the consulate of italy presents:

the invention of the radio wireless telegraph by g. marconi

featuring instruments and equipment developed & used by marconi

this free exibit runs 10am - 6pm november 2 3 4 & 5 at the palace of fine arts theater, san francisco, 415-389-7031

i am told by bob frier wb66ezk this is an outstanding exibit & it needs publicity in the radio world. other subscribers of boatanchors may wish to post it on other lists. after sunday, its history!

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: "Nickels, Bob" <RNickels@P16.IL50.micro.honeywell.com>

Subject: BA Speaker

Message-ID: <309A43CE@mail\_gw.micro.honeywell.com>

Just wondering how badly I should feel about missing a chance to buy a BA Speaker at a household auction last week. It was a Jensen cabinet that looked to have a 12" speaker in side. It had a wood veneer finish and was about 3 ft by 2 ft by 18 inches deep. It was used (and sold) with an SX-42, and there was a transformer mounted into the back panel which looked like the old style UTC or equiv. 600 to 8 ohm transformer, although I'm not certain that this was a PM style speaker as there was evidence of a chopped-off AC line cord.

I'm curious to know if this Jensen speaker was a real treasure or not, and what it's value might be. I'll bet it would have sounded good! BTW, the speaker and SX-42 (looked nice) sold as a pair for \$120 and it looked like one bidder would have paid much more. Seemed plenty at the time, but now...?

Bob KE0T

rnickels@p16.il50.micro.honeywell.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995 From: "Deane D McIntyre" <dmcintyr@136.159.34.101>

Subject: Re: Bad information -Fred Hammond

Message-ID: <9511031952.AA32978@ds1.acs.ucalgary.ca>

```
In message <309A6D23@arrl.org> "Cain, Jim, K1TN" writes:
> Fred Hammond, VE3HC, is quite alive and well.
> IARU Region 2 President Tom Atkins, VE3CDM,
> spoke to Fred just a few minutes ago by telephone.
>
> Jim Cain, K1TN
> ARRL Senior Editor
Please accept my humble apoligies. I am very glad to hear that the
information that I had passed on regarding Fred Hammond, VE3HC,
is false. I had heard on a net last night that he had passed away.
Deane D McIntyre VE6BP0
dmcintyr@acs.ucalgary.ca
From boatanchors@theporch.com Sat Nov 4 00:03:00 1995
From: BOB.LIESENFELD@hamlink.mn.org (BOB LIESENFELD)
Subject: BOOTON
Message-ID: <815356840.AA04104@hamlink.mn.org>
Hi,
I have been given a Booton Radio RX Meter Type 250-A, .5-250MHz BA.
Anyone familiar with this beast? Funtion, operation, etc. Thanks.
  72
       Bob
             WB0P00
---NoSnail v1.17
*********************
HAM>link< RBBS - Serving the Amateur Radio Community Since 1983
- 612/HAM-0000 v.34
                                  Ham Radio Spoken Here!!
- 612/HAM-1010 v.32b
                             Reply to sender @ hamlink.mn.org
**********************
From boatanchors@theporch.com Fri Nov 3 07:11:06 1995
From: Bill Smith <bilsmith@crl.com>
Subject: Re: Broadband RX Only Antenna - What to do
Message-ID: <Pine.SUN.3.91.951102113122.11979F-100000@crl14.crl.com>
I use a parallel dipole.. the current configuration is 4 dipoles for 160,
80, 40, and 20 meters all tied to a common feedpoint (RG-213). Each
```

shorter dipole is supported about 2 inches underneath the longer by

acrillic plastic rods which have had holes drilled in them to support the

wires. Have used this antenna (previous version was 80,40,20,10 meters) for the last 6 years with great success. Yes, the elements interact quite a bit. Lower frequencys take additional wire to resonate, and the minimum SWR isn't great or broad. But minor adjustment with an antenna tuner takes care of matching, and the antenna is great as an all-band receiving device.

When I added the 160 meter element, I first tried just a 160 meter dipole with 450 ohm ladder line. It lasted a week. I took it down and added back the old 80-40-20 elements and changed the feed from ladder line back to coax. I found a significant transmitting performance improvement on 40 and 20 and recovered my 'no tune, all frequency' receiving capability. I dropped the 10 meter dipole, interactions were just too much. I plan to put up a separate 10 meter antenna when the band opens up again.

The 80-40-20-10 antenna is commercially made by Van Gorden Engnineering.

BTW, for those who don't have room for an extended 160 meter antenna (I don't either) I have had great success with this one.. I only have room for an 80 meter dipole. The 160 extends under the 80 meter for as far as I can allow, then the ends are zig-zagged over house rooftops to take up the extra length. The ends are not allowed to double back toward the feedpoint, but that is about the only restriction. See "HF Antennas for All Locations" by Les Moxon, G6XN for more information.

Hope this isn't off-topic.

73 de Bill, AB6MT bilsmith@crl.com

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Michael.J.Knudsen@att.com

Subject: Re: Broadband RX Only Antenna - What to do Message-ID: <9511022342.AA07422@bock.ih.att.com>

I've had pretty good results with the Alpha-Delta Sloper 60. They also make a shroter, 40-foot version with one less loading coil that only goes down to 80 meters.

The 60 is about 65' feet long, end-fed, ahs two loading coils (that look good for a KW!), and has a second, shorter wire in parallel with the main line for the higher freqs.

Also has a single "downlead" counterpoise line. All wires are 12-guage solid copper. I paid around \$70 for mine, but it comes with everything you need except feedline, which must terminate in a PL-259.

I also xmit thru it. Loads really FB on 20m, not so hot on other bands.

Although officially rated only down thru the BC band for rx, it delivers plenty of signal in LW and even VLF. The instructions tell you its effective length at the low end, with both loading coils involved -- I forget, but it's well over 100 feet. 73, mike k w9nrd

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: ornitz@eastman.com (Ornitz\_Barry)

Subject: Can't Anyone Read Anymore? (forsale discussion)

Message-ID: <199511022128.AA13956@eastman.com>

I hope this post is not an "after the fact" one. This is one of the problems in getting the posts in digest form.

Let me state right at the beginning that I agree with Steve Byan and Hank van Cleef. I wish everyone would go back and READ Jack's original missive. Instead this group seems to have taken on the Usenet mentality and began responding to follow-ups to follow-ups without evidently having read the original message.

Nowhere does Jack exclusively ban wanted or for sale posts. What he seems to want to do is ban the obviously commercial posts. AND I AGREE.

Without naming names let me paraphrase a few examples:

- 1) I just ran across another batch of tubes and will sell them as a lot.
- 2) These manuals did not sell last week so here is the long list again.
- 3) These connectors will be sold as lots. The list will be posted soon.
- 4) Last chance. Buy these parts now. I lowered my price from last week.
- 5) I have the following TRANSISTORS for sale.

I consider these five examples particularly bad. But they are just a few that represent recent trends. Let me explain why I object to these...

1) Why doesn't this individual collect everything together and make a master list? I would have no objection to seeing this posted once and then made available by FTP. Insisting on selling by the lot, with obviously low demand tubes thrown in with commonly needed tubes, reeks of commercial interest - even if the price is very reasonable. Somehow the delay caused by collecting everything together seems trivial.

- 2) The majority of the subscribers were present last week and read the list. Somehow I don't think the group picked up several hundred new readers over the weekend that would be interested in seeing the list again. Why not wait a month to increase the odds?
- 3) I have seen lots of posts talking about these connectors but I have never seen the list itself posted. One of my primary interests is in BA test equipment so naturally I am interested in GR connectors and adapters. Since there are others interested in the same items, I can perhaps understand the seller dividing his stash into roughly equivalent lots to make as many people happy as possible. However, I hate seeing bandwidth wasted on repeated "teaser" advertisements.
- 4) I don't care if this person denies it or not, this type of posting is obviously a business advertisement. It wouldn't be so bad if the individual listed the items once and said he was willing to dicker where all further discussions were offline. It would also be nice if this person did not include excessive "white space" in his postings. Remember that spaces and blank lines are still ASCII characters that have to be sent out and with close to 700 messages to be sent out, they add up.
- 5) This ad showed up twice in short succession. Remember this is a vacuum tube related list fellows. I have mentioned in the past that I have a large collection of germanium devices including power devices that were used in mobile power supplies for many boatanchors. The relationship to boatanchors is obvious and I will be happy to look for any particular part someone needs. But I have not, and I will not post a list on this group. The VSS list is more appropriate for that. The semiconductors mentioned in the offending post were for later model, solid-state Tektronix instruments a fact clearly mentioned the second time the list was run.

While I am pointing fingers at others, I am guilty too. I wrote once about Connector Corporation who is perhaps the last tube socket manufacturer in the USA. I encouraged the readers to get their catalog and suggest retail outlets for the company to sell through. I know now that Antique Wireless and a few other places have begun ordering their parts. I had absolutely no monetary interest in the post; I have not even received so much as a sample socket from the company. But I think the post might have helped insure an adequate supply of replacement sockets for our hobby. I also asked Jack if the message was too commercial before I posted it.

I also stand before this group guilty of posting about chemistry. But those posts were really about solvents, paints, glyptal varnish, and safety. They may not have exactly been about boatanchors, but a good part of the restoration of older gear involves paint and paint stripping. Most of the readers have little knowledge of chemical safety and the toxic nature of most solvents. There have been some pretty dangerous suggestions

posted by some well-intentioned but misinformed members about using such things as brake fluid as a paint stripper. Just as you need to know about electrical safety, you need to know a little about chemical safety if you intend to keep enjoying your boatanchors.

Is Jack Hill an arbitrary, ill-tempered, low-down, nasty, ugly, dictator?

Having met Jack last weekend in person, I can probably say a qualified YES to this question. :-) But put into his position, I think most of us would be the same. Phil Porch is providing a wonderful service for us, and so is Jack. Someone suggested forming another list where "want, forsale, and swap" messages would be welcome. Please do so. Remember to come back a year from now and tell us how truly EASY it is to manage such a list - AND PAY FOR IT. How Jack finds time to manage this list is beyond me. I don't seem to even have time to drop a Heath balun in the mail for someone I promised a while back. It takes a lot for Jack to pop his safety valve but I think the group lately has been giving him quite a bit of fuel to build up the steam with. Now the ugly part I cannot explain... {Thank goodness we have Bobbi and Laura to offset Jack and I, the Oliver Germanium clone!}

Everyone should have received a welcome message when they joined this list server. I remember the guidelines were fairly clear and specific. There is nothing wrong with an individual cleaning out his shack and selling equipment. But when this becomes an almost daily occurrence, it starts looking more and more like a business. I agree with Jack that this violates the purpose of this list. I have no idea how these posts will be treated on the glowbugs list but I hope they do not become prolific there either.

73, Barry WA4VZQ ornitz@eastman.com

```
From boatanchors@theporch.com Fri Nov 3 07:11:06 1995
From: Norm Flasch <flasch@cushy.eecs.nwu.edu>
Subject: Re: Can't Anyone Read Anymore? (forsale discussion)
Message-ID: <199511022254.QAA14888@cushy.eecs.nwu.edu>

> 
    I hope this post is not an "after the fact" one. This is one of the
    problems in getting the posts in digest form.

> 
    Let me state right at the beginning that I agree with Steve Byan and Hank
    van Cleef. I wish everyone would go back and READ Jack's original missive.
    Instead this group seems to have taken on the Usenet mentality and began
    responding to follow-ups to follow-ups without evidently having read the
    original message.
    (snip)
```

I am one of the offending parties. I did not read Jack's post in it's entirety, but rather skimmed it in the AM and later jumped on the bandwagon later after skimming some later posts. I have gotten myself in trouble for this sort of thing before. That is skimming instead of carefully reading what is written.

I think the problem, with me anyway, is not having enough time to read \*all\* that I disire to. There is just so \*very\* much that is interesting and deserves attention. I try to cover too much ground and loose sight of the details. This is an example.

I apologize if I have offended anyone. I will be more careful in the future. If not fully informed, I will not post. Jack is doing an excellent job with this service. Thank You,

- -

Norm Flasch flasch@eecs.nwu.edu Northwestern University Electrical Engineering and Computer Science

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Henry van Cleef <vancleef@bga.com>
Subject: Re: Capacitors - Paper-dielectric

Message-ID: <199511030240.UAA08185@zoom.bga.com>

As BHall88620@aol.com said

>

(From "Reference Data for Radio Engineers, "1949)

- > Capacitors paper-dielectric
- > Life voltage and ambient temperature:

>

- > Normal paper-dielectric-capacitor voltage ratings are for an ambient
- > temperature of 40 degrees centigrade, and provide a life expectancy of
- > approximately 1 year continuous service.

>

> I guess most of them die not from use (1 year = 8,500 hours) but from old
> age... Comments?

>

Good question. Alfred Ghirardi, in "Radio Physics Course" (1931-33) gives a detailed explanation of how wax paper condensers were made, and states that they are designed to have an operating life of 10,000 hours. He mentions a failure mode involving dielectric breakdown of the paper dielectric. At the time he was writing, the type of wax paper condenser that we talk about changing out in an old box was fairly new.

To make some estimate of usage of home entertainment radios in the 1930

period, assume that the set was operated four hours per day, five days per week. That gives about 1000 hours per year of operation, and 10000 hours would be about ten years of service. The 10,000 operating hour figure is a fairly common one, both for commercial and consumer electronics design.

The question arises, how do you prove that these components will last for ten years, operated at 1000 hours per year, without using up ten years in a "real life" test? Here, you get into attempts to devise "accelerated life tests" that will induce failures fairly quickly, and great statistical studies that supposedly extrapolate out to something that more-or-less represents real-world use of something. A sociologist friend of mine, who gets hired to set up statistical research studies is rather blunt in saying that all such studies are "demonstrably flawed." I say this to point out that accelerated testing requires a lot of assumptions, and that not all factors relating to failure modes get included in accelerated tests. Almost any device has aging mechanism that accumulate some sort of "service life" or deterioration while sitting unused in storage.

The stuff we are collecting has been around for somewhere between forty and seventy years, and it is well to remember that most of the manufacturing processes used to make this stuff were only a few years old when it was made. It's easy to find a 1935 capacitor in 1995. But there were no 1875 capacitors to study in 1835 that used anything like a similar technology to that used in 1935. Current capacitor manufacturing technology is much closer to that of the thirties and forties.

I think we have to remember that before the 1970's space programs, genuinely high reliability electronics didn't exist. By the end of WWII, it was very evident that wax paper condensers were prone to a steady flow of failures throughout their service life, and that they were close behind vacuum faults as a failure mechanism. The total recapping we talk about today was being practiced in 1950. I'm not sure whether the failure mechanism we see today are greatly different from those seen 45 or so years ago. Moisture contamination and mechanical breakage seem to me to be at the head of the list in both instances, but I have some "high quality" wax papers in a 1944 box that show high leakage and appear to be built and mounted so that mechanical problems shouldn't be an issue. The molded paper capacitors of the fifties seem to have problems of their own, even though they are made with solid jackets to keep the leads from wiggling, and so forth.

Accelerated testing may predict a 10,000 operating hour service life, and testing for 10,000 continuous hours of operating may confirm that prediction. But many of the caps we see to day have accumulated as little as 1000 hours of operation in periods on the order of fifty

years. The high frequency of failure we observe today simply proves that whatever predictions were made, and whatever tests were devised, that they didn't simulate the effects of decades of sitting on the shelf in a variety of environments.

- -

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: BHall88620@aol.com

Subject: Re: Capacitors - Paper-dielectric

Message-ID: <951103170557\_97301944@mail04.mail.aol.com>

In a message dated 95-11-02 21:40:47 EST, you write:

[note: a lot of the original good commentary by Hank van Cleef has been deleted to save bandwidth, I assume most people have seen it and I will not unnessecarily duplicate it]

>The question arises, how do you prove that these components will last >for ten years, operated at 1000 hours per year, without using up ten >years in a "real life" test? Here, you get into attempts to devise >"accelerated life tests" that will induce failures fairly quickly, and >great statistical studies that supposedly extrapolate out to something >that more-or-less represents real-world use of something. A >sociologist friend of mine, who gets hired to set up statistical >research studies is rather blunt in saying that all such studies are >"demonstrably flawed." I say this to point out that accelerated >testing requires a lot of assumptions, and that not all factors >relating to failure modes get included in accelerated tests. Almost >any device has aging mechanism that accumulate some sort of "service >life" or deterioration while sitting unused in storage.

I figured something like that was done. In fact, it is still done today. I remember reading an article in Computer Shopper on how hard disk drive companies determine Mean Time Between Failure (MTBF) times. It said that a company will set up a large number of drives, say 1,000, on testing racks running continuously. If one drive failes at the 10 hour mark, the drives are given a MTBF time of 10,000 hours (1,000 drives times 10 hours). It is a good way to compare reliability between drive types and different models, but not a good indication of the amount of time a drive would actually last between failures. I had a Miniscribe 3650 that failed 4 times during its life, and had nowhere close to its MTBF rating of 10,000 hours on it.

The same type of thing must have been done with the wax paper capacitors. I agree with your friend who insists these type of tests are flawed, but what else can we do? We just gotta give it our best shot...

>I think we have to remember that before the 1970's space programs,
>genuinely high reliability electronics didn't exist. By the end of
>WWII, it was very evident that wax paper condensers were prone to a
>steady flow of failures throughout their service life, and that they
>were close behind vacuum faults as a failure mechanism. The total
>recapping we talk about today was being practiced in 1950. I'm not
>sure whether the failure mechanism we see today are greatly different
>from those seen 45 or so years ago. Moisture contamination and
>mechanical breakage seem to me to be at the head of the list in both
>instances, but I have some "high quality" wax papers in a 1944 box that
>show high leakage and appear to be built and mounted so that mechanical
>problems shouldn't be an issue. The molded paper capacitors of the
>fifties seem to have problems of their own, even though they are made
>with solid jackets to keep the leads from wiggling, and so forth.

If it was known around 1950 that wax-papers weren't all that great, when did the industry stop using wax-paper capacitors? Or to better phrase the question, when did a capacitor superior to wax-papers come out? Was there a better replacement available around 1950, or were recap jobs then just done with new wax-papers?

And now the really scary question, will I have to redo my recap jobs of today 15 or 20 years down the road? In truth, no one knows...

73, Ben

BHall88620@aol.com \* Insert clever signature here.

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Terry Burge <terrybu@netman.ENS.TEK.COM>

Subject: Re: Capacitors - Paper-dielectric

Message-ID: <9511032313.AA09412@netman.ENS.TEK.COM>

This talking about wax paper caps brings up something I have wondered about since recapping my first Hallicrafter (S-120). It had what appeared to be wax paper caps, only in a plastic shell and labled like resistors with color bands. Are these still wax paper caps or are they something nearer to Polyurathan or mylars? Are they also subject to high failure rates?

Terry KI7M From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: n5off@w5ddl.aara.org

Subject: Collins KW-1 Fwd from SWAP
Message-ID: <217784@w5ddl.aara.org>

---- Forwarded message -----

How old is it and does it come with documentation. If you have documentation, please include some of the appropriate specs... thanks

---- End of forwarded message -----

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: n5off@w5ddl.aara.org

Subject: Collins KW-1 Fwd From Swap
Message-ID: <217786@w5ddl.aara.org>

Sorry, forwarded the wrong text in my last message :-(

Reply as shown:

Message #23

From: davida@primenet.com (David C. Allen)

Subject: FS Collins KW-1 & 651S1

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: pbock@melpar.esys.com (Paul H. Bock)

Subject: Command Xmtrs Wanted

Message-ID: <9511022217.AA24034@syseng1.se.melpar.esys.com>

In the market for Command Set transmitters. E-mail pbock@melpar.esys.com for particulars or to pass along any source info.

73,

Paul, K4MSG

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: k1zat@bah.com

Subject: Re: Command Xmtrs Wanted

Message-ID: <Pine.SUN.3.91.951102221705.25694B-100000@booz.bah.com>

### Paul

On Thu, 2 Nov 1995, Paul H. Bock wrote:

- > In the market for Command Set transmitters. E-mail
- > pbock@melpar.esys.com for particulars or to pass along any source

My friend, N7BW/3 in SMD, has quite a few of these that's he's threatened to throw into the local landfill. Call him, name is Bob, and see what kind of deal you can make (listed in the fone book in Hughesville).

id

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: "Jack C. Shutt" <102023.1716@compuserve.com>

Subject: Copy of: Fort Wayne Hamfest

Message-ID: <951103185356\_102023.1716\_EHT170-1@CompuServe.COM>

----- Forwarded Message ------

From: Jack C. Shutt, 102023,1716

TO: Clark Fishman (FSAC), INTERNET:cfishman@fsac3.pica.army.mil

DATE: 11/3/95 1:32 PM

RE: Copy of: Fort Wayne Hamfest

Hi Clark:

Well, Ft. Wayne is right on I-69. If you are coming West on I-70, It would be about 110

miles N. on I-69 from Indianapolis. If you are coming across on I-80/90 it would be about

50 miles South from Angola on I-69. When you reach the Ft. Wayne area take exit 112

off of I-69 and drive South on Coldwater Rd. to Coliseum Blvd. Turn left on Coliseum

and go past 2 lights. The coliseum will be on the right. You can't miss it, It's pretty big.

Talk-in will be on 146.88 Repeater.

Motels are plentiful, all the major national chains are here, so you should be able to call

for reservations. There are several near the coliseum (or at least on the same end of town).

I suggest that you try Marriott, Holiday Inn, Days Inn, Knight's Inn, Dollar

Inn, Marriott

Courtyard, Comfort Inn, Red Roof Inn, etc. (take your pick, all have national res. service.

Tell them you want north location.

Hope to see you here.

73, Jack, N9GT

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Michael.J.Knudsen@att.com

Subject: Re: Cover-Your-Glass perservative

Message-ID: <9511031713.AA07951@bock.ih.att.com>

You're welcome. I'm Mike; it's Steve that sells the stuff :-)
If you're good with a fine brush, you can try to restore missing artwork,
tho it's easy to make things look worse, like really tacky.

If you try that, the trick is to apply the CYG-Lite FIRST, then do touch-up painting over the think film of dried CYG. You can then wipe off mistakes and try again, without damaging any more of the original.

Yes, I have done this with pinball backglasses in small patches, and the results were a lot better than when I started.

Then remember not to let your radio get below 10 F -- no garage storage. Well, maybe 4, 5, and 6 types needn't worry -- except when shipping a set to the rest of the continent.

73 es gud luck covering your uh, glass -- mike k w9nrd

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: "Tom Taylor" <tom\_taylor@taligent.com>

Subject: Drake History?

Message-ID: <n1396796126.78838@taligent.com>

Does there exist a history of Drake equipment?

I'd be interested in knowing the list of major Drake equipment, the years produced, and original list price.

Tom aa6br

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Duncan Cadd <dcadd@luc.ac.be>

Subject: early radio at LUC

Message-ID: <9511031404.AA27553@alpha.luc.ac.be>

Greetings, Anchorites, from a moist and windy Diepenbeek in N.E. Belgium!

Earlier this year, there appeared in the university rag here a brief article concerning a student project which had as its topic the beginnings of radio. The students concerned are engineers in their second study year.

Intrigued, I emailed the chap responsible for this effort, and herewith his reply. I thought you'd like to know!

```
> From: Rainer Petersen <petersen@luc.ac.be>
>
> The student project "beginselen van radiofonie" was intended to
> illustrate the state of the art of radio transmission and reception at the
> beginning of the century. We set up an elementary spark transmitter on
> medium wave ( please do not tell anything to the PTT, hi ) and detected
> the signal with a crystal detector receiver. As an improvement we
> installed a 30 m vertical antenna/earth system and managed to listen to
> diverse local bc stations. The receiver was further improved to enhance
> selectivity. (decoupling of the resonant circuit with a high-impedance hf
> stage). For the final demonstration, an af amplifier has been added to
> allow loudspeaker reception and I hope that aside from the educational
> purpose the students have got some feeling for the matter. Unfortunately,
> they have to leave the LUC after they passed their second year. I really
> would be glad to get some people together for a radio amateur group at
> the university. If you are interested, please let me know.
> vv 73,
> Rainer (DL 1 LAR)
```

You can well imagine my response to this! Maybe between Rainer and myself we can persuade the university that what the students REALLY need to see is a working Fessenden alternator with suitable modulation . . . or maybe a quenched arc, also suitably modulated . . . experiments on log decrement, homebrew tubes . . . MY WORD!!!!!

LINDSAY . . . you're GOING to have a LOT to answer for 8-) (I hope!)

73, and brain in severe regenerative feedback mode,

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: pmills@cyberhouse.com (Phil Mills)

Subject: For Sale posts

Message-ID: <199511021905.NAA20789@ns.cyberhouse.com>

Well, one thing's for sure....Jack knows how to stimulate us to use the bandwidth!

thanks, Phil Phil Mills, AB5TH pmills@cyberhouse.com 713-482-2763

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: 102023.1716@compuserve.com Subject: FORT WAYNE HAMFEST

Message-ID: <199511030221.VAA04380@arl-mail-svc-1.compuserve.com>

Hello all,

Someone asked about the Fort Wayne Hamfest. It will be Nov. 18 and 19 this year at the Allen County Coliseum and Exposition Center.

The hamfest is open 9:00 am to 4:00 pm Sat and 9:00 am to 3:00 pm Sun.

This is a large hamfest and usually is populated by a lot of good BA's. (Last year's attendance exceeded 6800). I believe exhibition floor space is something like 150,000 sq ft. with over 1100 tables and several of the big national equipment manufacturers and dealers will be there.

This is one of the premier events in this part of the country and is always attended by a number of BA enthusiasts and AMers.

Hope to see you at Fort Wayne!

73,

Jack C. Shutt, N9GT 102023,1716@compuserve.com

\*

\*\*

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995 From: "Deane D McIntyre" <dmcintyr@136.159.34.101>

Subject: Fred Hammond, VE3HC, SK

Message-ID: <9511030502.AA18780@ds1.acs.ucalgary.ca>

# Gang:

I is my sad duty to inform you that Fred Hammond, VE3HC, of Guelph, Ontario, passed away last week. For most readers of this list Fred will need no indroduction. His BA collection (museum) was featured in the Sept 1995 issue of QST (p.29) and was almost without doubt the largest in Canada. Fred was first licensed as a ham in 1929. The Hammond company, which was started by his father and uncle around 1920, was a early manufacturer of BC receivers before becoming a leading producer of transformers and related gear, a position that Hammond still holds today. My Elmer, Farmcomb, VE3BHQ, described Hammond transformers as the "best in the world". Art Collins must have had a equally high opinion of Hammond, as Hammord transformers were used in Collins rigs. Fred a few years ago donated much of the equipement used in W1AW, was very actibe in QCWA, and was instrumental in getting BY hams back on the air in the 80's.

Fred, you will be missed.

73, Deane D McIntyre VE6BP0 dmcintyr@acs.ucalgary.ca

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Tom Clarke <clarke@cs.ucf.edu>
Subject: Re: FS telegraphic transmiter

Message-ID: <199511031535.AA16975@longwood.cs.ucf.edu>

At the risk of incuring sales-wrath I send this which appeared on rec.antiques.marketplace I'm not a bug person, so I don't know if its high or low.

In rec.antiques.marketplace he write:

REPLY TO

schllosluna5@technet.nm.org

## NOT ME!!! NOT ME !!!

>Vibroplex Co telegraphic transmitter (akc) wig-wag or speed key Model # >23670 late 1940's de Luxe Vibroplex Presentation model Chrome plated. Some >pitting around plate otherwise excellent shape. Comes with original case. >\$175.00 +s/h.

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Neal McEwen <nmcewen@metronet.com>
Subject: Re: FS telegraphic transmiter

Message-ID: <199511032354.AA04006@metronet.com>

>Vibroplex Co telegraphic transmitter (akc) wig-wag or speed key Model # >23670 late 1940's de Luxe Vibroplex Presentation model Chrome plated. Some >pitting around plate otherwise excellent shape. Comes with original case. >\$175.00 +s/h.

>

Anyone interested in this key should be aware that the serial number quoted and the date quoted do not match. Be sure to check if it is really a Presentation.

A Vibroplex with a serial number of 23670 would have been made before World War I. A Vibrobplex made in the late 40s would have a serial number of 1XX,XXX. The Presentation had chrome parts on a gold base. Look before you leap. I would be happy to assist you in determining what it is.

- -

73 de K5RW - Neal McEwen - Richardson, TX (Dallas)

\*\*\*\*\*\*\* I collect old telgraph and wireless telegraph keys \*\*\*\*\*\*

HomeNet - nmcewen@metronet.com - OS/2 tcp/ip SLIP

HomePage - http://fohnix.metronet.com/~nmcewen/techno\_weenies.html

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: jml@spider.lloyd.com (Jim Lockwood) Subject: Heath green, a possible source

Message-ID: <mOtBAK2-000TppC@spider.lloyd.com>

Gang,

I've been looking for a couple of years for an off the shelf aerosol paint to match the funky green Heath used on the Marauder/Mohawk/Apache cabinets (and other products). Every paint I'd previously tried was too green, too dark, too light, not enough blue, not enough gray, etc, etc.. Today, I

think I've found a color that is as close as I'm likely to get without goint to a custom-mixed paint.

The paint I've found is ColorWorks/Krylon brand Medieval Azure, SKU 24504 05302.

I've sprayed a test panel and compared it to several Heath cabinets here and it's pretty darn close. It is a great match for the paint on my Seneca, a good match for the paint on my Mohawk cabinet, and definitely acceptable for use on my Marauder. It's borderline acceptable on my Mohican (an early Heath sandbox), but this is academic as the Mohican doesn't need painting.

Some caveats, though, before you rush right out and look for some.

- 1. It's not a perfect match to the cabinet paint. Notice, if you have one of these radios, that the dial and meter bezels on the Heath gear are a slightly lighter shade of green than the cabinet green. This paint is lighter than the cabinet but darker than the dial/meter bezels.
- 2. Even tho it's an aerosol paint, it's water based instead of being solvent based (lacquer) or whatever base conventional enamels are. I've been told that such water based paints take much longer to dry than conventional aerosols. This might be a minus if you, like me, crave instant gratification and are wont to spray a piece, nuke it with a hair dryer, and put it into service immediately. I don't think you can do that with this stuff. The good side to the water base, though, is that you're probably not going to encounter any incompatibilities between this paint any underlying older paints.
- 3. It may not be available in all areas. It's out here in California because of the strict polution laws that have made it unattractive to sell conventional aerosols in many places. I don't know if there is a formulation for the rest of the country or if this is universally available.

So, the bottom line is, here is a paint that is a pretty good match for the first version of Heath green and it's available without custom mixing. It's not perfect, but it's the closet match I've yet found. Since none of my radios are going to be entered in a concours de elegance, I'm going to use it.

73,

Jim - km6nk

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: bcutter@teal.csn.net (Bob Cutter)

Subject: Heath Monitor Scope

Message-ID: <199511031634.JAA22405@lynx.csn.net>

I have a working HO-10 that I am in the dark about using, other than straight monitoring of transmit signal. There are several input connections on the rear panel, other than the coax connectors.

Anyone familar with the unit or have a manual to sell or copy?

73, Bob KIOG END

KI0G

bcutter@teal.csn.net

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Mark60195@aol.com

Subject: Heath XTAL's set for SB-401

Message-ID: <951102213152 80420920@emout06.mail.aol.com>

Wondering if anyone has a set of xtal's to set up a SB-401 for stand-alone operation (including the LSB/USB rocks) they like to part with. I found a source for them in Michigan but 10 of 'em at \$12 each seems a little steep. Thanks!

Mark Lakomski WB9PPL

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: haynes@cats.ucsc.edu (Jim Haynes) Subject: Hookup wire and life testing.

Message-ID: <199511040229.SAA14716@hobbes.UCSC.EDU>

Some of the younger readers here may not realize that the plastic insulated hookup wire we all use today is a recent development. Well, I guess if you have been under the chassis of a real boat anchor you have seen some of the older stuff: wire wrapped with cotton threads and a cotton braid outer coat, wire insulated with rubber and maybe a cotton braid outer coat, wire wrapped with silk thread and then a lacquered cotton thread outer wrapping.

I remember an article in which some Western Union people were first evaluating plastic-coated wire for in-office use. Their test setup consisted of a loop of bare wire, and looped through this a loop of the insulated wire under test, the latter weighted with a brick. They connected a buzzer and battery circuit, one end to the bare wire and one end to the insulated wire. Then they hung the wire loops and brick in an oven. After a certain amount of time the plastic insulation would be cut through, shorting the two wires together and sounding the buzzer. As I recall they concluded the only satisfactory wire had PVC insulation and an outer nylon jacket to protect the PVC against cut-through.

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Lewis=M=Dobbins%Mktg%GVG@banyan.BV.TEK.COM

Subject: Mobile BA Antenna

Message-ID: <9511021957.AA23751@tekgen.bv.tek.com>

Greetings BA'ers everywhere!

I just put a camper shell on my truck and lost the use of my toolbox mounted HF whip (actually it was a 6 meter whip. I did not want it to look like CB). Any way, I am now looking for the best performing antenna for HF reception for mobile operation recieve only. It needs to be either a NMO type mount or a thru-glass. I am concerned about the loss of a thru-glass for RX but don't know. I have used thru-glass for 2 meters and 450 but realize that we are talking a totally different breed of cat!

Other suggestions or experience would be very welcome.

Lew

Lewis Dobbins
Training Engineer
Grass Valley group Inc.
lewis.m.dobbins@tek.com
WD6GJR

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: steve.cornelius@tempe.vlsi.com Subject: National NC-303 documentation

Message-ID: <9511022025.AA15603@shark.tempe.vlsi.com>

Hello, all...

After lurking here for a couple of years, a \*real\* project finds it's way into my shop.

I've just acquired a not-too-pretty NC-303 (or maybe it acquired me...).

Cosmetically, it's awful, but it's in reasonable electrical condition.

After a couple of hours on the bench last night, I got it to pick up a couple of 40m CW conversations on a lame antenna (noisy, though). I don't see anything irreparable at this point, so it's probably well worth investing some time in. (And yes, the original meter is long gone...)

I do have pages 1-28 of the owners manual, which contains the alignment procedure and some test values, but there is no schematic or layout drawing.

Does anyone have a repro or original, or any suggestions of a source? Reimbursements gladly provided for, of course.

Inevitably, I'm bound to run into a bright kid with "the bug" and no working capital. This unit ought to be just the thing to have when that happens...

Thanks, 73 steve, aa7xv
-Steve Cornelius
VLSI Technology Inc., Tempe, AZ, USA
steve.cornelius@tempe.vlsi.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Andy Wallace <wallace@mc.com>

Subject: National SW-54 finally jumped in my car

Message-ID: <9511032341.AA10551@kali>

At the weekend's Nashua Antique Radio show, I picked up the cute little National SW-54. Nice shape, and actually plays...not too bad a price, either. Only problem so far is the BFO doesn't work, and the dial plastic could use replacing (gotta check the hobby stores). Anyone got a SAMS or a manual to sell me?

It's got to be one of the smallest SWL sets around!

Also got another \$15 prize which I will power up and post about hopefully this weekend. No, it's not a Collins R-390A with the dial lock engaged!

Don't neglect the an-teek radio shows -- especially for NOS parts for your hartleys or glowbugs.

73, --Andy wallace@mc.com

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: dma@IslandNet.com (Jan Skirrow)

Subject: Re: No more posts

Message-ID: <motb4s8-0005aAC@island.amtsgi.bc.ca>

>I agree too that this is the best place to get parts/equipment. In this >day where BA stuff is hard to get and even rarer as the years pass, I >find that the newest maneuver by the administration comes at an >inappropriate time. I hope they reconsider for it is this very same >reason why the BA list exists. Calm, N6KYR.

Right on. I like this list for two things: the marvelous technical discussions by people like Henry van Cleef, Bill VanAlstyne, Stan Griffiths and others, and for the FS/WTB stuff. In my short time here I've learned much that I need for restoration projects that I can think of no other way of obtaining. Knowing what's available and how much it costs, even if I've only bought a few things, is invaluable. The long lists of parts etc aree some of the most valuable.

However, going away for a few days and finding 3-400 messages on my return is daunting. So we must find ways to keep the flow low! I like the idea someone mentioned of posting the availability of a list of needs or availables, and e-mailing it to those who say they want it.

OTOH I am surprised at the incredibly arbitrary way in which "rules" are made here, especially as part of the \$\$\$ comes from posters. Surely we can work out the problems with bandwidth while still keeping what most of us value, but without excess grannyism.

Jan Skirrow VE7DJX

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: paul Veltman <veltman@netcom.com>

Subject: Old Coax

Message-ID: <Pine.3.89.9511022155.A9241-0100000@netcom4>

Hi sports fans,

I was rumaging through some spools of old coax and came across some stuff I don't have specs for.

The first is labled Cablewave Systems Flexwell (hardline) and has a stock number of 16733-81918-001.

The second spool has a stock number of SC050052730AFO

The third is coax that has what looks like a foam jacket and is unlabled. A paper tag has federal numbers as follows: 6145009235787 SC05005223001

Can any of you tell me what this stuff is??

Thanks,

Paul WA60KQ

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: David Stinson <72227.1640@compuserve.com>

Subject: On the eve of our destruction....

Message-ID: <951103163511\_72227.1640\_EHM68-9@CompuServe.COM>

Man, I had a real hot rant all ready to go. I was P.O.ed. I knew Jack was going to burn my access. He still may. If this isn't in the daily digest, you know it's been edited out and I've been ejected. Well, I filed the hot rant away and took a couple of deep breaths. For now....

### Shaun/All:

The problem is really not what can and cannot be posted to the list. That's just a smoke screen to allow people to crawfish while saving face. Read between the lines in my last post. The real problem is pontifications like this:

>From all the protests, I think very FEW of you read what was posted or >even had a clue as to what the objection was...

>The protestors have all posted their complaints to the list as a >whole, sadly demonstrating an inability to read what was posted.

(So now we're all too stupid to understand common english..)

#### and:

>"That's the way it's going to be...get used to it."
and:

> I'd really like it to stop...NOW.

and other past load, blustering proclaimations over minor or non-existant problems. This doesn't come across as a leader speaking to respected equals. It comes across as Lord Jack, King of Boatanchors demanding tribute from his pions. I resent it. And I'm not alone.

We were all spoken down to in public. I responded in kind and I don't apoligize for it. Conflict is to be resolved, not hidden from. I will stand and speak out against this disrespect for the community.

This list has evolved into a special and valuable asset for us all, but our community stands on the brink of fragmentation and self-destruction. It has indeed already begun. Our leader has a serious problem, but it's a solveable problem.

Jack has worked very hard and created something unique in all the world; A community of Boatanchor people. A bad case of ego-hunger will destroy all that work, leaving only a few uninspired users and a legacy of resentment among the shattered fragment-groups. You've all seen this happen to ham clubs before. Don't let it happen here.

We need to stick together and work together to keep the BA community whole if at all possible. I do \*not\* support mass unsubscriptions. I may get booted off for speaking my heart and my convictions, but I will not unsubscribe.

Sincerely,
David Stinson AB5S/7

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995 From: mirage!pamars@uhura.neoucom.EDU (P.A.Marshall)

Subject: Re: On the eve of our destruction....

Message-ID: <9511040007.AA07976@mirage>

David,

Sir, I feel that \*you\* are totaly out of line! I do not want to see anyone leave the list, but those that can not or will not abide by the very lose and rather laid back list guide lines are best gone IMHO. A society with out law is not a nice place from what little I see of world news, on the other hand one would rather not have overly many or misguided laws, I think that by any measure Jack's actions fall toward the "few" end of the spectrum, and I feel that they are in the class of the "needed few".

Above all this is a place of civil discourse, no matter the subject.

As nightfall does not come at once, neither does oppression. In both instances, there is a twilight when everything remains seemingly unchanged. And it is in such twilight that we all must be most aware of change in the air--however slight--lest we become unwitting victims of the darkness.

Justice William O. Douglas

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: w7ni@teleport.com (Stan Griffiths)

Subject: Re: On the eve of our destruction....

Message-ID: <199511040148.RAA05650@desiree.teleport.com>

>Man, I had a real hot rant all ready to go. I was P.O.ed.
>I knew Jack was going to burn my access. He still may.
>If this isn't in the daily digest, you know it's been edited out
>and I've been ejected. Well, I filed the hot rant away and took
>a couple of deep breaths. For now....

What's all the fuss about? My lifestyle hasn't changed one bit since Jack's now famous post and I doubt that yours has either.

I would like to make a couple of points:

- 1. This is Jack's list. He can manage it any way he wants. I, for one, am grateful he is willing to manage it all. This list is not a democracy. It is more like an unprofitable business. If you had a losing business and all you got was bitching and whining for your trouble, why would you continue to operate it? I would not.
- I learned before I entered Kindergarten that the way to ease the pain of a spanking was to start crying at the first blow, show remorse, and appologize a lot whether I thought I was guilty or not. Maybe your pride won't let you do it but I only got ONE really painful spanking in my entire life. I figured out how to handle the rest. Assuming you think you've been seriously wronged, you can still handle this situation like I handled spankings. If your pride and ego will allow it, assume responsibility, appologize, modify your behavior slightly if required, and then resume livng. It doesn't cost anybody anything and we don't lose any valuable contributors to the list nor do we lose the list itself.
- 3. The real tragedy will be if Jack decides he's had enough whining from we who use his generosity every day and he shuts the whole thing down. Think about that the next time you "really get P.O.ed" and send your flames to me instead of Jack. I can't shut anything down except my own PC.

4. There are no chains holding any of us here. If you don't like it here, go elswehere. Start your own list. If it's like boatanchors, I'll subscribe to your list too.

This is some of my free advice that is worth ten times that much.  $(10 \times 0 = 0)$ 

Stan W7NI@teleport.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: aa4rm%amos.UUCP@mathcs.emory.edu (Marty)

Subject: Re: PRE-ARC sets

Message-ID: <9511021944.AA18331@amos.YP.mystnite>

they're a pre-war command set-pair used in things like the Boeing P26, the Martin Bolo B10(?), etc. Ur right about the TRF rx and the tx tube-employment.

They couldn't receive CW (A1), they used A2 MCW.

The RX was the BC229AS & the tx the '230. Don't know what a BC 240 might've been.

Tho once plentiful, it's been a while since I've seen a set. Put 'em on display or break 'em out for the AWA OT CW 'test.

Best,

Marty

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: "Ray L. Mote" <rmote@rain.org>

Subject: RE: PRE-ARC sets

Message-ID: <Pine.SUN.3.91.951103053212.18319A-100000@coyote.rain.org>

Tim, are you sure that's a "BC-240" and not a BC-430? The BC-230 and BC-430 were part of the SCR-183 and SCR-283 Command Sets in the pre-WW2 era. A lot of mail pilots crashed carrying those little turkeys, which led to their replacement by the SCR-274-N series sets. The Navy equivalent of these early sets was the GF transmitter and RU receiver combination (replaced during WW2 by the ATA transmitter and ARA receiver command sets). Good luck with your new project.

73.....Ray Mote, W6RIC <rmote@rain.org>

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Gene Williamson <genewill@efn.org>

Subject: QCWA Announces On-Line Amateur Radio Museum

Message-ID: <Pine.SUN.3.91.951102153807.23952A-100000@haus.efn.org>

Quarter Century Wireless Association (QCWA) announces establishment, on November 1, 1995, of the world's first (as far as we can tell) On-Line Amateur Radio Museum. It's available through the QCWA home page -- http://www.efn.org/~qcwa -- as is a new electronic membership application (hint).

And, we really need your help:

If you have a crisp, sharp, well-lit, detailed photograph of an amateur station from \*anytime\* in the history of our hobby, and would be willing to part with it for a couple days, QCWA would like to talk to you. FIRST send an email, please, to General Manager Jim Walsh, W7LVN -- jwalsh@efn.org -- and describe your photo(s). We'd like to display, at a bare minimum, one station photograph from each decade of the 1920s on (or earlier, if we can find them).

Should Jim ask you to send in your photo, it will be scanned \*the same day\* it arrives, and returned to you \*the following day, at the latest\* by \*the same means\* you sent it in . . . insured Federal Express, UPS, snail mail, whatever. You may, of course, wish to donate your photo to the QCWA Archives, and that's fine too (bigger hint!). QCWA is a 403(c)(3) IRS-approved non-profit organization, and your accountant can advise you on the myriad wonders of donating to such an organization. Jim does NOT, repeat NOT, want the equipment itself . . . only the photographs.

Visit the QCWA Web page and see what's in the museum already (not much, but we only started yesterday!) Eventually -- disk space permitting -- we hope to be able to offer not only a screen image, but a high-DPI scan file you can download and print out you rself.

Soon to come -- the Boatanchor archives on the QCWA BBS (503-683-4184) -- but that's another story. We now return you to the program in progress...

73 Gene K7DBV, Apprentice Webmaster Striker, USNR genewill@efn.org

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: standard@pcs.mb.ca

Subject: Rabid SWAN Collectors

Message-ID: <199511032017.0AA10875@pcs.mb.ca>

I'm new to the list and am wondering if there are any other SWAN fanatics present. Is there a list of all the Swan gear floating about? How about a hints and kinks spot, or the history of Swan Engineering/Electronics?

Any new info would be welcome!

Gary Smith VE4YH
packet VE4YH@VE4KV.#WPG.MB.CA.NA
e-mail standard@pcs.mb.ca

Swan net 14.251 Sundays at 4pm cst

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Sheldon Wheaton <swheaton@sky.net>

Subject: RCA AR-88 panel question

Message-ID: <Pine.SUN.3.91.951102144913.22143B-100000@solar.sky.net>

I have an RCA AR-88LF that is the low frequency variant of the poplular AR-88, and would like to restore the front panel to the original black color. Previous owner painted it metallic blue, and put chrome Heathkit Apache knobs on it - a real eyesore! Thanks to fellow BA-lister Dexter Francis, I now have a complete set of the correct knobs (except for the main tuning knob).

Can someone tell me what the correct type of black paint is for this unit (flat, semi-gloss, or wrinkle)? It is most similar to the original AR-88, in that it has no crystal phasing control like the CR-88.

Also: if anyone has a junker unit, I'd be interested in finding the large tuning knob (looks like skirted mushroom), and also the two chrome trim strips that grace the top and bottom of the tuning dial windows. (I'll try to make the knob and trim pieces if I have to!)

Many thanks in advance and 73, Sheldon KCOCW

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: fgilmore@woodtech.com

Subject: Re: RCA AR-88 panel question

Message-ID: <199511030620.AA22174@relay.interserv.com>

On Thu, 2 Nov 1995, Sheldon Wheaton <swheaton@sky.net> wrote: >I have an RCA AR-88LF that is the low frequency variant of the poplular

>AR-88, and would like to restore the front panel to the original black
>color. Previous owner painted it metallic blue, and put chrome Heathkit
>Apache knobs on it - a real eyesore! Thanks to fellow BA-lister Dexter
>Francis, I now have a complete set of the correct knobs (except for the
>main tuning knob).
>
>Can someone tell me what the correct type of black paint is for this unit
>(flat, semi-gloss, or wrinkle)? It is most similar to the original
>AR-88, in that it has no crystal phasing control like the CR-88.
>
>Also: if anyone has a junker unit, I'd be interested in finding the large
>tuning knob (looks like skirted mushroom), and also the two chrome trim
>strips that grace the top and bottom of the tuning dial windows. (I'll
>try to make the knob and trim pieces if I have to!)
>
>Many thanks in advance and 73,
>Sheldon KCOCW
>
>

Sheldon there were at least three different color schemes used on the '88 series. I have two of them and they are totally different and have seen a third one that was yet another variation.

The CR-88, last model made to my knowledge, had a solid medium or perhaps even battleship gray smooth pain finish. It also has a spinner tuning knob. Hmmm....of course it has the diversity connectors too because that is what it was made for....in the manual they show no less than three of them in a rack with the adaptor.

The oldest model was black crackle with red crackle trim. Have one of those. It may wind up being a parts receiver, not sure yet. The dial glass/plastic is broken on the thing and I thnk it has other problems as well....and I just don't have the time to go into it.

The ones I see showing up at hamfests had a rather flat black crinkle finish. Ooops...I did see one that had a smooth enamel black finish that was obviously factory.

My memory is kicking in....there was yet another variation. A local has one that he brought back form WW II and it has a solid red crackle front panel...maybe some black trim....I just don't recall. Beautiful receiver. He 'liberated' several and sent them home to various hams and kept one for himself.

Now that I have pretty well exhausted that subject I withdraw to the coffee pot. My CR-88 is sitting over here copying CWon the low end of 40 at the moment.

And as I always say....in keeping with the British custom...you must have a lace

doiley on top of the receiver with a figurine or lamp or something on it. Hi!

Frank KOJPJ ex-W5PVX ...-.-

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Scott\_Johnson-AZAX60@email.sps.mot.com

Subject: RE>Re- SB-34 (was Re- First

Message-ID: <"Macintosh \*/PRMD=MOT/ADMD=MOT/C=US/"@MHS>

RE>Re: SB-34 (was Re: First solid-st 11/3/95 I have several SBE CB's that I pick parts from. First rate in construction and performance. It appears that SBE was selling children's band radios at least into the late seventies. BTW, these are good hamfest/thrift store finds. Most have a nice 8 pole xtal filter, but some have mechanical filters. All seem to be sideband rigs that will make upwards of 25-30 PEP two tone. Nice ten meter fodder for cheap.

73, Scott

I also recall seeing ads for an SB-35, but never have seen one. Did this radio really exist?

I recall a company by the name of SBE that was located in the same area (near San Diego) that produced single-board computers and Multibus I hardware. I'm pretty sure this was what became of the original Sideband Engineers after they exited the ham business. Can anyone confirm this theory?

Bob KEOT rnickels@p16.il50.micro.honeywell.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Scott\_Johnson-AZAX60@email.sps.mot.com

Subject: RE>Re- tektronix question

Message-ID: <"Macintosh \*/PRMD=MOT/ADMD=MOT/C=US/"@MHS>

RE>Re: tektronix question

11/3/95

If I may offer a plausible suggestion, could it be that with one beam coming up first simplifies finding and adjusting trace A before trace B gets in the way? My 556 has this feature as well, and I find it useful.

-----

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: "Nickels, Bob" <RNickels@P16.IL50.micro.honeywell.com>

Subject: Re: SB-34 (was Re: First solid-state rig Message-ID: <309A2AFA@mail\_gw.micro.honeywell.com>

>I've seen ads in "ham radio" magazine for SBE transceivers numbered as high >as SB-36, but I've never knowingly seen examples of these at swaps. I think >the SB-36 may have been a 100% sandbox, if it even actually existed.

It existed, and I owned one in the early '70s. It was a larger radio, hybrid design, and had (drum roll please!) a DIGITAL DISPLAY using Nixie Toobs! What an impressive sight, allowing for parallax, of course!

Otherwise, it was quite ho-hum in performance, although rated at 500 Watts PEP. Kind of pretty with its matching power supply and brushed chrome panel, sort of like the Kenwood twins. Few if any traces of the clever and elegant designs of the SB-33/34, and in fact, I beleive it was a ricebox at heart. There was an identical rig - very obscure - from Robyn, the same outfit that produced CBs in the '70s. I think the SB-36 and Robyn were identical, just brand-labeled differently. I sold mine to get an all-sand-state rig, before coming to my senses and realizing the error of my ways. I have since redeemed myself!

I also recall seeing ads for an SB-35, but never have seen one. Did this radio really exist?

I recall a company by the name of SBE that was located in the same area (near San Diego) that produced single-board computers and Multibus I hardware. I'm pretty sure this was what became of the original Sideband Engineers after they exited the ham business. Can anyone confirm this theory?

Bob KEOT rnickels@p16.il50.micro.honeywell.com

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: bill.sorsby@dlep1.itg.ti.com (Bill Sorsby)
Subject: Re: SB-34 (was Re: First solid-state rig
Message-ID: <199511032357.RAA02546@dlep1.itg.ti.com>

# Greetings.

I'm glad to see that far from insulting you BoatAnchorites my original SB-34 post has generated a lengthy discussion.

Concerning what happened to SBE, I can offer the following. Last night while inspecting my 1965 vintage SB-34, I noticed the following label on the back panel:

SIDEBAND ENGINEERS An operation of Raytheon Company So. San Francisco, Calif

To me this explains their lack of innovation in subsequent products. A sad end for an originally innovative electronics company. But, probably just as well, they could never have been cost competitive with Japanese electronics in the '70's

Regards,
Bill Sorsby, N5BU bill.sorsby@dlep1.itg.ti.com
(ex WA50LS)

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: Michael.J.Knudsen@att.com

Subject: Re: SB-34 (was Re: First solid-state rig
Message-ID: <9511031721.AA07962@bock.ih.att.com>

Dunno, but there was a company called Smoke Signal Broadcasting that made Motorola CPU based boards (6800, 6809, the good stuff) for the SS-50 bus (Moto's answer to the Intel S-100 bus).

I always wondered if they started out making ham gear, maybe with toobs even. 73, mike k w9nrd

PS: Interesting how all the major electronics companies had a fling at computers, mostly in teh mainframe days, and either flopped miserably or didn't last long -- GE, RCA, Bendix, Raytheon -- and even Zenith sold PCs for a while. AT&T tried and took NCR down with them.

Just as well National, Hammarlund, etc didn't try to diversify into that mess.

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: don merz <71333.144@compuserve.com> Subject: Slopers and Windoms Pulling Them In

Message-ID: <951103202944\_71333.144\_DHB93-5@CompuServe.COM>

Michael Knudsen mentioned the Alpha-Delta 60 sloper antenna for good SWL results and I can only second his vote. It is a fine and durable antenna that delivers good results even if installed relatively low.

Another good all-around antenna for me has been the radio Works Windom. That antenna really does a fine job on all the ham bands and is not too shabby elsewhere.

One to avoid: The SGC folded dipole. Nothing but a dog. The Windom ran circles around it.

Thanks.

Don, N3RHT

71333.144@compuserve.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Sheldon Wheaton <swheaton@sky.net>

Subject: SX-110 manual pages needed

Message-ID: <Pine.SUN.3.91.951103105414.27427E-100000@solar.sky.net>

Hi BA gang,

I have a manual for the Hallicrafters SX-110, but my copy starts at page 3. Can someone provide me a copy of whatever, up to and including page 2? I would like to have a copy of the cover as well if possible. Of course I will gladly re-imburse reasonable copying costs. I have numerous BA manuals that I can copy for compensation as well.

thanks in advance & 73, Sheldon KCOCW

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: afpgreg@state.me.us (Paul V. Gregory)

Subject: Take a Breather, Please

Message-ID: <199511022007.PAA29933@gatekeeper.ddp.state.me.us>

Ahoy, Everyone hold up on the food fight....

Today's the 75th birthday of commercial broadcast radio. The station? KDKA-Pittsburgh, of course.

Isn't that call still in service? If so, is it the only "K" call used east of the Mississippi?

--Paul

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Sandra L Knepper <slkst29+@pitt.edu>

Subject: Re: Take a Breather, Please

Message-ID: <Pine.3.89.9511021810.D18036-0100000@unixs5.cis.pitt.edu>

KDKA is still on the air everyday. 1020 Khz.

Dave, W3BJZ

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Michael.J.Knudsen@att.com

Subject: Re: Take a Breather, Please

Message-ID: <9511022352.AA07444@bock.ih.att.com>

Yes, "KDKA" is still in use, still part of the Westinghouse Broadcasting System, and still the warm, friendly voice of Pittsburgh on 1020 KCs.

It is certainly one of very few (if not the only) K-call east of the Miss. And one of the original clear-channel stations. At night there seems to be nobody else on that freq. 73, mike k w9nrd

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Harris Boldt Edelman <hbe@red-eft.la.ca.us>

Subject: Re: Take a Breather, Please

Message-ID: <9511030450.AA04037@red-eft.la.ca.us>

> is [KDKA] the only "K" call used east of the Mississippi?

Also in Pittsburgh is (was?) KQV. And in Philadelphia, KYW.

-Harris. KB60WB <hbe@red-eft.la.ca.us>

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

```
From: w7ni@teleport.com (Stan Griffiths)
Subject: Re: Tek Scope
Message-ID: <199511040148.RAA05551@desiree.teleport.com>

>Stan,

>What would you recommend as a good Tek scope for BA repair. I presently
>use a Navy URM-117. It is small (a real virtue, but its BW is limited to
>5 Mc. Someday I need to replace this workhorse with something better.
>
>Thanks!
>
>73
>
>
>
Slafayette, LA
>KC5IJD
>EMail: kc5ijd@aol.com
>
Hi Joe,
```

I wrote whole book on this subject because it is not a question that has a one-line answer!

Like any other choice you have to make that has a hundred different possible answers, you have to start by defining what you intend to do with the instrument before you can know which instrument does it best. It is not even that simple. You might know exactly what instrument will do it best but you can't afford it! So your decision will be a compromise. Now you have to list all the different parameters of the scope that you can compromise, determine which ones are most important, give them the most weight, and then evaluate.

You have already said you are feeling the need for more bandwidth which is a good place to start. The fact that you directed this question to me indicates you would like your new scope to be a Tektronix. (I COULD be wrong; there ARE other makes out there!) Let's narrow it down:

## 1. BRAND OF SCOPE

I say it should be Tektronix without a doubt, but then I am biased. There are good reasons. First, there are a lot of cheap Tek scopes around that you can get for less than \$100. You have at least two experts on the BA net to help you through any tough problems. You can get almost any part. You can get manuals or copies of manuals.

### 2. ECONOMICS

You best buy will be something you find at a hamfest or fleamarket. Your really best buy will be one that doesn't work but has a simple problem. (A bad CRT, power transformer, or rotary switch is not a simple problem.) At the risk of sounding like a commercial, I suggest you get a copy of my book "OSCILLOSCOPES--Selecting and Restoring a Classic" if you don't already have one. It was written with the fleamarket scope buyer in mind and it will tell you some tips to make your shopping less risky.

#### 3. SIZE

Everybody wants a small portable scope. For this reason they cost more--lots more--for the same performance. Size just isn't important to me. It's a lot cheaper to get a bigger workbench than a smaller scope.

### 4. BANDWIDTH

In general, the more--the better. However, that quickly gets into the economics of the issue. There are lots of 15 MHz Tek scopes out there in the 530 series and lots of 30 MHz Tek scopes in the 540 series available for under \$100. So why wouldn't you always take a 540 (30 MHz) over a 530 (15 MHz)? The answer: Screen size. The 530 series is 6 x 10 cm and the 540 series (except the very latest models) is 4 x 10 cm. That's a 50% difference in display area.

Most BA projects don't require more than 30 MHz so a 540 should be good enough. I am inclined to say bandwidth is more important than screen size for BA applications.

## 5. PLUG-INS

All the scopes I have mentioned use plug-ins. The whole idea of the plug-in scope was to allow the user to vary the characteristics of the scope by changing the plug-in. Plug-ins are a great idea and you can add more plug-ins to your stable as you buy them at future fleamarkets.

Let me list my favorite choices, in order of preference:

Model Ba	ndwidth	Display	Approx. Price
546 50 544 50 545B 33 543B 33 545A 30 543A 30	MHz MHz MHz MHz MHz MHz MHz MHz	6 x 10 6 x 10 6 x 10 6 x 10 6 x 10 4 x 10 4 x 10 4 x 10	\$100-200 \$100-200 \$100-150 \$100-150 \$100-150 \$75-100 \$75-100 \$50-80
J	···-	=-	7

535A	15 MHz	6 x 10	\$75-100
533A	15 MHz	6 x 10	\$50-80
531A	15 MHz	6 x 10	\$50-80

Below this line, instruments came originally with selenium rectifiers. If the seleniums are still installed in the instrument, forget it, and keep looking.

545	30	MHz	4	Χ	10	\$50-100
543	30	MHz	4	Х	10	\$40-80
541	30	MHz	4	Х	10	\$40-80
535	15	MHz	6	Χ	10	\$50-100
533	15	MHz	6	Χ	10	\$40-80
531	15	MHz	6	Х	10	\$40-80

If you were to ask me which of the above I actually own, the answer is at least one of each with a couple of exceptions. But then, I am an eccentric collector.

Instrument condition is everything. The prices listed reflect the prices you will most likely see at a fleamarket. There are exceptions both above and below the range I have given. My opinion is that a clean instrument that is fully functional and working as Tektronix had intended is worth fully five times as much as one that needs a lot of restoration and maintenance. The above prices do not reflect this kind of a price spread because they reflect reality as opposed to what makes sense.

I hope this is what you were looking for. If you have any other specific questions, please ask.

Stan W7NI@teleport.com

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: Henry van Cleef <vancleef@bga.com>

Subject: Re: Tek Scope

Message-ID: <199511040415.WAA19337@zoom.bga.com>

Well, as the other half of the scope talkers here, I'll put in my own two cents.

First of all, I'll agree with everything that Stan has said. Since I didn't write the book, I'll put in a plug for Stan's book, "Oscilloscopes: Selecting and Restoring a Classic." Electric Radio and Antique Electronic Supply sell them for \$19.95, and value like this for a \$20 bill hasn't been seen since Dick Nixon was president.

The original question was like "what old car can I buy to replace my clapped out Volkswagen beetle, and while I'm at it, I'd like to get something that will keep up on the freeway a little better?" You can get answers ranging from a Chevy six to a BMW yupmobile, and just about any opinion and flame war you want to hear, as well as some you don't.

In terms of brands of old scopes, there are two brands: Tektronix, and all the others. Some of the competition tried to give Tek a run for its money. Some of the low-end HP scopes were reasonably good. The one Dumont that is worth considering is the 766H, but I am not sure how "orphan" those scopes are today. Stan's book has over 200 pages of short descriptions of Tek scope products, and virtually every page discusses equipment you can use around HF radios and transmitters.

One bit of good fortune is that the most common Tek models on the surplus and hamfest circuit are the better choices for general bench use today. As a Tek engineer, I had access to the entire product line for both professional use at Tek, and on loan for personal use. After I left Tek, I worked for companies that had good inventories of Tek products, so generally had my choice.

Today, buying antiques at hamfests, I'd have to say that any of the letter series Tek scopes (530-540 series) are hands-down winners. If I had my choice, I'd get the last of the model type. 547, 546, and 544 have the widest bandwidth (50 Mhz), while 545B and 543B have simple vertical amplifiers and 30 Mhz. bandpass. 535A, 533A, and 531A are all 15 Mhz. bandpass. All of these scopes have 6CM vertical deflection, simple vertical amplfiers, silicon rectifier power supplies. You'll need at least one plug-in. The CA dual-trace is probably the most popular, though it stops at 24 Mhz in the higher frequency scopes. A K will give you the full 30 Mhz in the 30 Mhz. scopes, and has the advantage of being very simple. To see 50 Mhz. on the 50 Mhz. scopes, you'll need a 1A1, which has the drawback of using nuvistors. You can mix-n-match to your heart's content. What's on my bench right now is a 533A with a 1A1.

The 545A was by far the volume seller of the 540-A series, and is a good scope. I put it down a little lower because it uses a distributed amplifier (lotsa tubes, all matched pairs) and only has 4CM of vertical deflection.

The bench scopes I used for most of the time I worked for Tek were the 585 and 585A. These were originally sold in 1959 as "100 Mhz" scopes. These scopes do not use letter series plug-ins. They use an 80 with a P80 cathode follower probe, and 82 (the most common, a dual-trace unit) or 86 (same circuits, but single trace). To use letter series plug-ins in a 580 series, you need an 81 or 81A adapter. Tek lowered the

performance figures as time went on, and I think the final word was that they were "85 Mhz" scopes. Reality is that at the probe tip, using an 82 or 86, with the X10 amplifier turned on, you are going to see about 65 Mhz. performance at the probe tip. There is a modification list as long as your arm, particularly for the early models, and I wouldn't use a 585-series scope that didn't have all the mods in it. The original "non-A" 580 series also would not trigger much above 5 Mhz. With a 585 you are going to see 4CM on the graticule, but some trace compression even when everything is fine (i.e., on 1 volt/CM, a 2 volt signal will give you 2 CM, but a 4 volt signal won't fill all the way out to 4 CM). My feeling in 1970, and my feeling today, are that I prefer 6CM and simplicity to get 50 Mhz performance, compared to going to a rather exotic setup to get another 15 Mhz. or so. Considering where the amateur bands are, you can look at 10 meter signals, raw, with a 30 Mhz. 540, 6 meters raw with a 547, and the next ham band is 2 meters.

For RF work, the delaying sweep feature is more-or-less superfluous. I, personally, do not put a lot of "value" on wide bandpass for RF work. A lot of people, both engineers and technicians, tend to use a scope when other instrumentation would be a better choice. You can't look at a 15 Mhz sine wave with a 545 to check it for purity and absence of harmonics. The second harmonic may be visible if you know exactly what to look for, but the third and fourth are not. You don't want to put away your Simpson meter, your VTVM's, or your wavemeters and frequency meters just because you have a wideband scope. Where wideband scopes shine is with pulse and digital work, and that is where things like delaying sweep and multiple inputs are really useful. For work with old radio receivers and transmitters, a 533A with a K plug-in and a single probe will give you 90% of the really useable capability that a 585 and 82 with two probes will.

Something that Stan has brought up in the past the unwillingness of a lot of people to pay \$100 or \$150 for a scope that he has gone through and calibrated. Yes, you can buy 540-540 scopes and plug-ins at the hamfests for \$10 and \$25, bring them home and get to work on them. I have bought some of these, and I know exactly what I found inside. Keep in mind that Stan Griffiths has something like 30 or more years making Tek scopes work. I'd never enter a contest with him on how quickly I can debug a scope, although as a design engineer and an instructor in training programs, I had to know the insides of the things backward, forward, up, down, and sideways. I've never counted them, but I think that a 545 has about 75 tubes in it, and that about half of them are twin tubes, which means well over 100 tube circuits that have all got to be functioning for the scope to work properly. If your experience with electronics is amateur radio, you are not going to see any familiar circuits. One tank circuit in the whole scope, no RF amplifiers, no audio amplifiers. Stan and I can plug in a scope, turn

it on, run a few simple voltmeter checks, twiddle a few knobs, and know where to start looking. Knowing where to look----not only the circuits that are involved, but which chassis they're on, and about where on that chassis---is what makes our approach look deceptively simple. If that "bargain" scope of yours has some botched repairs, then you've got some serious debugging ahead of you. If your "bargain" has a broken wafer switch, lots of luck. If you want to play scope fixer, buy hamfest bargains. If you want a good clean working calibrated scope, with a good CRT, quiet controls and switches, all the tweaks adjusted properly (and take a look inside at the panel of tweaks under the top center rail---those are just the beginning), that you can plug in and use, pay the \$150----you'll be ahead of the game. Even the very best hamfest scope that needs only washing and calibration will eat up a day of an expert's time.

I've always preferred the big 5-inch letter series scopes over the later "babies." On a letter-series scope, the centimeters in the display are real centimeters, not quarter inches. The knobs are nice and big, spaced out, and you can get hold of them and turn them without hitting something else.

- -

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: w7ni@teleport.com (Stan Griffiths)

Subject: Re: tektronix question

Message-ID: <199511030652.WAA08935@desiree.teleport.com>

>R556, I noticed in the manual change section that my unit is one of
>the later ones which contains a high voltage delay circuit "which permits
>the Lower Beam to reach normal brightness at a slower rate than the Upper
>Beam" (quoted from Tektronix manual). The delay circuit in mine works fine,
>I am just curious what the purpose of delaying lower beam start-up is.

>Rodger WQ9E

Hi Rodger,

This is a new one on me! I even called my friend who still works in the Factory Service Center at Tektronix to ask him if he knows what this is all about and he had not heard of this circuit before either. I then checked the microfiche Modification Summary for the 556 and found no reference to it that I could identify by your description.

If you really want to know, I suggest you copy that page in your manual that refers to it and send it to me. You can either FAX it to (503) 591-1620 or mail it to:

Stan Griffiths, W7NI 18955 S.W. Blanton Aloha, OR 97007-1230

I will look it over and see if I recognize anything like a mod number buried somewhere on the page that will help me chase it down. You have me curious now so I will be happy to do this for both you and me.

Stan W7NI@teleport.com

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: Johnp64221@aol.com

Subject: thats what he's talking about

Message-ID: <951103121250\_97064241@emout05.mail.aol.com>

That VE fellow who wrote about the annoying for sales of old connectors and tubes and manuals is just the thing dave was talking about. because he is not interested in old boatanchor test equipment he thinks the posts are annoying and offensive but if they were about his national or collins or whatever they would be vital. it is selfish and self centered. I need those parts and am very very glad to find them here.

why don't we just give each other some room here? Jon S.

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995 From: FRANCIS4@AppleLink.Apple.COM (Francis, Dexter)

Subject: Trouble...

Message-ID: <815450659.8803478@AppleLink.Apple.COM>

Scott Turner says I'm in big trouble. Consider this;

The 51S-1 showed up yesterday. My son had an important homework assignment due, that I was helping with, so I didn't take the radio down to the shack like I usually do with a new acquisition. Instead I hooked an 18" long piece of #12 solid up to an RCA plug and hauled it all upstairs to the bedroom. (Yeek!)

My wife has been generally ambivalent and patient with me about my hobbies, but she's definately a techno-phobe. When she got home at 9pm the S-1 was sitting on top of my chest of drawers with an external RS speaker attached. She looked at the S-1 and asked; "Is that the one you've been expecting? (I'd already told

her about the "all origional" bottle of intestinal gas passed by a Collins engineer that was \*only \$1000\* and generally downplayed the fact that I was spending almost as much as our mortgage payment for the S-1)

Then she asked if I was going to sell everything else I had - as someone else in the group had suggested - now that I'd gotten a Collins.

She paused for a minute and said;

"That's a good looking radio."

After listening to Radio Quito for a while and learning that the signal was coming all the way from Equador, she said:

"That's sounds like fun."

hmmmm....

Scott's probably right.

-df

BTW - On first blush, the hyperbole seems deserved. I think I'm going to really like this radio. Results of real technical tests later; after tube checks, etc.

to check out. When I had convinced my wife that it would only be for a minute, she said "oh alright, but just for a few minutes." But after she got to listening to it and I showed her the shortwave bands and we were listening to Deutche Welle, she decided that the old girl was pretty neat. In fact she suggested that we make room for it in the living room. It's been there for the last three YEARS and she won't Let me move it. Just goes to show you that you never know what's gonnna happen.

KIM

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: John Shriver <jas@shiva.com>

Subject: Re: tube type 4610

Message-ID: <199511032249.RAA20078@shiva-dev.shiva.com>

(Sorry if the whole list isn't interested, but I've deleted the original message, thinking I had no info whatsoever.)

I finally found something on it. This is one of the more obscure of the septar tubes, RCA clearly didn't market it for very long! (Many of the septar tubes were obscure, like the 3C33. Only a few were popular.)

All I have is one line on the "RCA Transmitting Tube Types - Limited Listing" that was put in the RCA HB-3 in 2-65, and removed by update E69D in 11-69. (I have this 1972 HB-3 that came with many of the pulled pages saved, and the various leftovers from the last few years of updates.)

It is listed as a twin triode, I think RCA was recommending it for regulators.

The maxium ratings are plate volts 3000 V, plate current 100 mA, plate dissipation 30 watts. Heater parallel is 6.3 V at 2.25 A (ouch!), series is 12.6 V at 1.125 A.

Looking at the pinout -- the type description in the table lies. If this is right, it's a dual tetrode. Pinout:

- 1 Heater
- 2 Grid 1 section 2
- 3 no pin
- 4 cathode, screen (RCA says S, K)
- 5 Heater center tap
- 6 Grid 1 section 1

# 7 Heater

Plates come out the caps.

Any more information, you'll need to find someone with an RCA HB-3 that stopped being updated before 1965, but later than 1957 (which is the next earlier one I have). It falls between the dates of the TT-3 and TT-4 RCA Air Cooled Transmitting Tube Handbooks.

One Davilyn catalog I have lists it for \$85. (Note that Davilyn is about the most expensive place to buy NOS tubes, but they do have a lot of obscure numbers.)

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: Steve Ellington <n4lq@iglou.com>

Subject: RE Viking Knob

Message-ID: <Pine.SOL.3.91.951102184828.13622A-100000@iglou>

After all the free advice, I rushed home, threw my coat on the couch, darted into the shack and immediately grabbed the Viking knob and began twisting wildly. After about 85 or so cranks, OFF SHE CAME!

A big thanks to all especially KIM. H I S advice was excellent.

Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: JOHN BERENYI <JBERENYI@cc.weber.edu>

Subject: WTB RF signal generator

Message-ID: <01HX7GCTHA1A90NH78@cc.weber.edu>

Need one that goes from 50Kcs to at least 30 Mhz.

John Berenyi

From boatanchors@theporch.com Sat Nov 4 06:13:00 1995

From: jml@spider.lloyd.com (Jim Lockwood)

Subject: WTB: Drake 2B parts radio

Message-ID: <m0tBXRC-000TrSC@spider.lloyd.com>

Gang,

Recall my question of a week or so ago about a balky 40M Xtal in my 2B?

Well, I've got another Drake 2B-related problem. This time I need either a parts radio or, more particularly, the preselector variable capacitor out of a parts radio.

Why? Well, it's kind of a strange story. If you're interested read on. In any event, if you have either an entire radio (with a good preselector variable) or are willing to part with just the variable itself, please contact me and let's make a deal.

Here's what happened since my last 2B posting. One kind BA member offered me his 2B as a parts radio. Guaranteed dead, he said. Piece of cr\*p. Beyond repair. A good source of the 40M crystal I needed to fix up my 2B.

After some spirited negotiations, I bought it.

Actually the negotiations started out strange and then got weird: He offered me the radio for \$20, including shipping(!). I knew he had paid \$30 for the radio so I offered him \$40. He countered with \$30, but wouldn't tell me where to send the check. I threatened him with \$50, unless he told me where to send money. Finally, he caved in, told me his address and I sent him \$30.

Two days later the radio arrived.

Sure enough, it was a mess. Filthy. Corroded. No line cord. Missing a knob. So I scavenged the 40M Xtal from it, put it in my 2B and my 2B began playing beautifully.

However, the more I looked at the "parts radio", the more I realized that, hey, this thing is complete. Peeking at the bottom side, I found that none of the factory installed smoke had ever leaked out of any component. Hmmmm.... My TV-7 revealed that one tube was weak, one was shot to hell, and the rest were good. So, you can guess the rest, right? Two new tubes, some clip leads between the stub of a line cord and P G & E's finest 60 cycle product, and this miserable, ugly, dirty, mongrel of a radio was copying SSB as well as my "good" 2B. Just as stable, just as sensitive, only dirtier.

Rats. I was sold a bill of goods. I bought a parts radio only to find that it really isn't. I've got a good mind to reveal the name of the BA member who sold it to me so no one else will get stung like I did. Stung? Yep. Now I gotta fix the darn thing. Like I really was looking for another project. Nope, it can't just sit on my shelf living the life of an organ donor.

And that brings me to my need for a preselector capacitor. The ball bearings in the preselector cap in my "parts radio" are shot. The shaft is loose and the rotor plates sometimes short against the stator plates. So,

I'm in the market for a replacement cap.

Thanks for reading this far (assuming anyone did) and if you have a Real Parts Radio (tm) you want to get rid of, or just the preselector cap, please let me know. Just make sure it's dead.

73,

Jim - km6nk

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: bgraham@tecnet1.jcte.jcs.mil Subject: WTB: Heath MT-1 Cheyenne

Message-ID: <199511031129.FAA12404@uro.theporch.com>

I'm looking for a Heath MT-1 Cheyenne to go with my Heath HX-20.

Bill Graham N5LMX/DA1WG

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: hlayer@sfsu.edu (Hal Layer) Subject: WTB: 1949 Dumont TV

Message-ID: <199511022147.NAA22636@apollo.sfsu.edu>

Does anyone have a c.1949 Dumont console TV, (Model: Sussex, RA-105) available for sale or trade, or to photograph! It is needed for a good cause!

Hal, hlayer@sfsu.edu

From boatanchors@theporch.com Fri Nov 3 07:11:06 1995

From: k1zat@bah.com

Subject: Re: WTB: 1949 Dumont TV

Message-ID: <Pine.SUN.3.91.951102221507.25694A-100000@booz.bah.com>

Hal

On Thu, 2 Nov 1995, Hal Layer wrote:
> Does anyone have a c.1949 Dumont console TV,
> (Model: Sussex, RA-105) available for sale or trade,

Didnt that one have a channel 1 on it? Bet you want to tell the fella down the street on six meters you heard him on your TV <grin>..

jd

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995 From: ferraro@ix.netcom.com (Michael Ferraro ) Subject: WTB: Gonset Communicator IV 2mtrs Message-ID: <199511031902.LAA29006@ix3.ix.netcom.com>

looking for this "Goony 4 in good or better condx. 73 de Mike K6ZSR

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995 From: "Jack Giehl" <JACKG@s1.xetron.com> Subject: WTB: R-390A Speaker Xformer

Message-ID: <6C38B12510@s1.xetron.com>

Greetings BA enthusiasts,

The Motorola R-390A I recently acquired is now alive thanks to Fair Radio's main vfo that I bought last week. The 390A has 600 ohm output impedance audio. I am looking for a 600 to 8 ohm audio transformer that has wide range hi fi response.

Any thoughts on where one of these might be obtained? I had some UTC transformers years ago that would have been perfect, but someone needed them more than me and they are gone.

My other 390A has the Kleronomos audio mod in it, which allows it to directly drive 4 or 8 ohm speakers with 10 watts of hi-fi audio.

Jack

73,

\_\_\_\_\_\_

Jack, WB8BFS

jackg@xetron.com Loveland, Ohio (near Cincinnati)

\_\_\_\_\_

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: "Stanley L Flegler" <flegler@pilot.msu.edu>

Subject: RE: WTB: R-390A Speaker Xformer

Message-ID: <199511031609.LAA54949@pilot02.cl.msu.edu>

Fair Radio has transformers like this on p. 13 of their current catalog, #T1/LS166 for \$8.50. Or on p. 7, they have the complete LS166 speaker and transformer housed in a very rugged metal box for \$16.00. I use the complete LS166 on my R-390A and it works very well. It is not Hi Fi but this is due to the speaker which is tailored for voice. Stan K8RPA, flegler@pilot.msu.edu

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995
From: "Cal J. Eustaquio" <ceustaqu@violin.aix.calpoly.edu>
Subject: You know when your getting old when. . .

Message-ID: <Pine.A32.3.91.951103073048.70298B-100000@violin.aix.calpoly.edu>

You know your getting old when stuff that yo worked on (while in the service) all of the sudden finds itself at a swapmeet as mil-surplus. Just the other day I saw at TRW, an AN/URC-9 UHF transceiving set that was part of my ship's electronic equipment list. That was back in '87 when I was aboard the USS Badger and USS Lang. Also, them R-1051's were in the norm and so was a singular R-390 that was onboard my ship. And guess what-now these are surplus too. And I'm only 33. Still, I luv them BA's, even if they're surplus or not. 73's. Cal, N6KYR.

From boatanchors@theporch.com Sat Nov 4 00:03:00 1995

From: paul Veltman <veltman@netcom.com>

Subject: Re: You know when your getting old when. . .

Message-ID: <Pine.3.89.9511030849.A15320-0100000@netcom11>

You and your wife are walking through a museum exhibit that chronicles the history of early radio and she exclaims "Hey, this place looks like your hamshack!" :-)

Paul WA60KQ